

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Currently Amended): A carrier having immobilized antigens or antibodies, comprising:

a carrier having a substantially spherical shape and having a surface, in which at least the surface of the carrier is formed of a calcium phosphate based compound;

antiligands provided on and surrounding the surface of the carrier;

a blocking layer formed of a protein having low interaction with antigens or antibodies, the blocking layer being formed on a portion of the surface of the carrier where the antiligands are not provided, and the blocking layer being formed subsequent to the providing of the antiligands; and

antigens or antibodies each having a portion that is irrelevant to the antigen-antibody reaction on which a ligand is provided, said antigens or antibodies being immobilized to the surface of the carrier through bonding between the ligands and the antiligands with the blocking layer effectively preventing antigens or antibodies from being directly absorbed to the surface without bonding between the ligands and the antiligands.

Claim 2 (Canceled):

Claim 3 (Currently Amended): The carrier having immobilized antigens or antibodies as claimed in claim [[2]] 1, wherein each antiligand is carried by the surface of the carrier by adsorption.

Claim 4 (Currently Amended): The carrier having immobilized antigens or antibodies as claimed in claim [[2]] 1, wherein each antibody has a constant region, and the ligand is bonded to the constant region of the antibody.

Claim 5 (Previously Presented): The carrier having immobilized antigens or antibodies as claimed in claim 1, wherein the coating of the protein is made by adsorption of the protein to the portion of the surface.

Claim 6 (Previously Presented): The carrier having immobilized antigens or antibodies as claimed in claim 1, wherein the protein is casein.

Claim 7 (Previously Presented): The carrier having immobilized antigens or antibodies as claimed in claim 1, wherein the antigens or antibodies are stabilized.

Claim 8 (Previously Presented): The carrier having immobilized antigens or antibodies as claimed in claim 7, wherein the antigens or antibodies are stabilized by treating the carrier with a stabilizing agent.

Claim 9 (Previously Presented): The carrier having immobilized antigens or antibodies as claimed in claim 7, wherein the antigens or antibodies are stabilized by treating the carrier with a cross-linking agent which cross-links the antigens or antibodies and the ligands and/or antiligands.

Claim 10 (Previously Presented): The carrier having immobilized antigens or antibodies as claimed in claim 9, wherein the cross-linking agent is a bivalent cross-linking agent.

Claim 11 (Previously Presented): The carrier having immobilized antigens or antibodies as claimed in claim 1, wherein a portion of the carrier which is in the vicinity of the surface thereof is formed into a dense structure.

Claim 12 (Previously Presented): The carrier having immobilized antigens or antibodies as claimed in claim 1, wherein the carrier includes a carrier body having a surface thereof, and a coating made of a calcium phosphate based compound and provided on the surface of the carrier body.

Claim 13 (Previously Presented): The carrier having immobilized antigens or antibodies as claimed in claim 12, wherein the carrier is produced by colliding porous particles of the calcium phosphate based compound to the carrier body.

Claim 14 (Previously Presented): The carrier having immobilized antigens or antibodies as claimed in claim 13, wherein the porous particles are produced by agglutination bonding of primary particles of the calcium phosphate based compound.

Claim 15 (Previously Presented): The carrier having immobilized antigens or antibodies as claimed in claim 1, wherein the antibodies are IgG.

Claim 16 (Withdrawn – Currently Amended): A method of manufacturing a carrier having immobilized antigens or antibodies according to claim 1, the method comprising:

providing the antigens on and surrounding the surface of the carrier having a substantially spherical shape;

forming the blocking layer of a protein having low interaction with antigens or antibodies on the portion of the surface of the carrier where the antigens are not provided subsequent to the providing of the antigens; and

immobilizing the antigens or antibodies each having a portion that is irrelevant to the antigen-antibody reaction to the surface of the carrier which is formed of a calcium phosphate based compound through bonding between the ligands and the antigens.

Claim 17 (Canceled)

Claim 18 (Withdrawn – Currently Amended): The method of manufacturing a carrier having immobilized antigens or antibodies as claimed in claim ~~17~~ 16, wherein the antiligands are adsorbed by the surface of the carrier.

Claim 19 (Withdrawn – Currently Amended): The method of manufacturing a carrier having immobilized antigens or antibodies as claimed in claim ~~17~~ 16, wherein the ligands are bonded to constant regions of the antibodies.

Claim 20 (Withdrawn): The method of manufacturing a carrier having immobilized antigens or antibodies as claimed in claim 16, wherein the forming the coating layer comprises letting the protein be adsorbed to the part of the portion of the surface of the carrier.

Claim 21 (Withdrawn): The method of manufacturing a carrier having immobilized antigens or antibodies as claimed in claim 16, wherein the protein is casein.

Claim 22 (Withdrawn): The method of manufacturing a carrier having immobilized antigens or antibodies as claimed in claim 16, wherein the method further comprises, after the immobilizing, stabilizing the antigens or antibodies.

Claim 23 (Withdrawn): The method of manufacturing a carrier having immobilized antigens or antibodies as claimed in claim 22, wherein the stabilizing is carried out by treating the carrier with a stabilizing agent.

Claim 24 (Withdrawn): The method of manufacturing a carrier having immobilized antigens or antibodies as claimed in claim 22, wherein the stabilizing is carried out by treating the carrier with a cross-linking agent for bonding the antigens or antibodies to the ligands and/or antiligands.

Claim 25 (Withdrawn): The method of manufacturing a carrier having immobilized antigens or antibodies as claimed in claim 24, wherein the cross-linking agent is a bivalent cross-linking agent.

Claim 26 (Withdrawn): The method of manufacturing a carrier having immobilized antigens or antibodies as claimed in claim 16, wherein a portion of the carrier which is in the vicinity of the surface thereof is formed into a dense structure.

Claim 27 (Withdrawn): The method of manufacturing a carrier having immobilized antigens or antibodies as claimed in claim 16, wherein the carrier includes a carrier body having a surface thereof, and a coating made of a calcium phosphate based compound and provided on the surface of the carrier body.

Claim 28 (Withdrawn): The method of manufacturing a carrier having immobilized antigens or antibodies as claimed in claim 27, wherein the carrier is produced by colliding porous particles of the calcium phosphate based compound to the carrier body.

Claim 29 (Withdrawn): The method of manufacturing a carrier having immobilized antigens or antibodies as claimed in claim 28, wherein the porous particles are produced by agglutination bonding of primary particles of the calcium phosphate based compound.

Claim 30 (Withdrawn): The method of manufacturing a carrier having immobilized antigens or antibodies as claimed in claim 16, wherein the antibodies are IgG.

Claim 31 (Currently Amended): A carrier having immobilized antigens or antibodies, comprising:

a carrier having a substantially spherical shape and having a surface, wherein at least the surface of the carrier ~~which~~ is formed of a calcium phosphate based compound;

antiligands provided on the surface of the carrier;

a blocking layer formed of a protein having low interaction with antigens or antibodies and having a metallic ion which has been subjected to a treatment for removing or reducing the metallic ion, the blocking layer being located on at least a portion of the surface of the carrier where the antiligands are not provided; and

antigens or antibodies each having a constant region on which a ligand is provided, portion ~~that is irrelevant to the antigen-antibody reaction,~~ each of said antigens or antibodies being immobilized to the surface of the carrier through ~~the irrelevant portion thereof;~~ and

~~the surface of the carrier having a portion where the antigens or antibodies are not immobilized, and at least a part of the portion of the surface is coated with a protein having low interaction with antigens or antibodies, in which the protein is comprised of a protein having a metallic ion which has been subjected to a treatment for removing or reducing the metallic ion bonding between the ligands and antiligands with the blocking layer effectively preventing antigens or antibodies from being directly absorbed to the surface without bonding between the ligand and the antiligands.~~

Claim 32 (Canceled):